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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,570	04/03/2001	Christof Eberspacher	225/49834	8702

7590 07/29/2004

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EXAMINER	
SAVAGE, JASON L	
ART UNIT	**PAPER NUMBER**
1775	

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/824,570	EBERSPACHER ET AL.	
	Examiner	Art Unit	
	Jason L Savage	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4,16 and 56-59* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,16 and 56-59* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7-8-04 has been entered.

Claim Rejections - 35 USC ' 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-2, 4, 16 and 56-59 are rejected under 35 U.S.C. 103(a) as unpatentable over Kawamura et al. (US 5,249,661).

Kawamura teaches a wear-resistant coating on a synchronizing ring formed by flame spraying (col. 2, ln. 24-28). The coating contains between 5-30% by weight of solid lubricating ceramic particles which may be oxides, carbides, or nitrides of elements such as Ti, Si, B, Al, Mn, Cu, Co, Ni, Na, Cr, W and V (col. 4, ln. 14-25). The porosity of the coating is between 5-30% (col. 4, ln. 51-60).

Regarding the limitation that the solid lubricant is permitted to be over 30% and up to 40%, it is unclear if the recitation that the lubricant is "permitted to be", emphasis added, within the claimed range is a recitation that the lubricant be within the claimed range or that it is merely a preferred embodiment. For the purposes of examination, the phrase has been treated as meaning that the limitation is a requirement of the claim and not merely a preferred embodiment.

Regarding the limitation, Kawamura teaches that the loading may be 30 wt% (col. 4, ln. 51-60). The claim merely requires the lubricant to be over 30 wt% which could be any amount including 30.01 wt%. Absent a teaching of the criticality of the lubricant being present in an amount over 30 wt%, such as 30.01 wt% as compared to being present in an amount of 30.00 wt% as is taught by Kawamura, it would not provide a patentable distinction over the prior art. The proportions of solid lubricants in the claimed coating and that of the prior art are so close that prima facie one skilled in the art would have expected them to have the same properties. Applicant has produced no evidence to rebut that prima facie case, Titanium Metals Corporation of America V. Banner, 227 USPQ 773.

Furthermore, Kawamura teaches that loadings of lubricants greater than 30 wt% may overexceed the abrasion of the object member (col. 4, ln. 30-35). Although Kawamura teaches that such a loadings within the claimed range is not desirable, all of the disclosures in a reference must be evaluated for what they fairly teach one of ordinary skill in the art even though the art teachings relied upon are phrased in terms of a non-preferred embodiment or even as being unsatisfactory for the intended purpose, *In re Boe*, 148 USPQ 507 (CCPA 1966); *In re Smith*, 65 USPQ 167 (CCPA 1945); *In re Nehrenberg*, 126 USPQ 383 (CCPA 1960); *In re Watanabe*, 137 USPQ 350 (CCPA 1963). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have permitted the solid lubricant content to be above 30 wt% with the expected effect as taught by Kawamura.

Regarding the limitation that the particle size be less than 180 μm, Kawamura teaches that the particle sizes prior to spraying are -150 mesh and -250 mesh (approximately 99 μm and 58 μm, respectively).

Regarding claim 2, although Kawamura does not teach the specific solid lubricants which are claimed, it teaches that the solid lubricating ceramic particles may be oxides, carbides, or nitrides of elements such as Ti, Si, B, Al, Mn, Cu, Co, Ni, Na, Cr, W and V (col. 4, ln. 14-25). It is the position of the Examiner that the teaching that the particles may be an oxide of an element such as Ti is a teaching that the lubricant is TiO_2 (col. 4, ln. 16-17). Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have selected an oxide of titanium or a nitride of boron as the lubricating particle since Kawamura states that they are suitable materials.

Absent a teaching of the criticality of the claimed materials such as hexagonal boron nitride, it does not provide a patentable distinction over the prior art.

Regarding claims 4 and 16, Kawamura teaches that the coating further includes a molybdenum alloy which may include elements such as Si and Ni (col. 3, ln. 56-59). Kawamura exemplifies that the molybdenum alloy contains Si and Ni (col. 5, ln. 67-68).

Regarding claims 56-59, Kawamura teaches that the porosity is between 5 to 30% (col. 4, ln. 51-60). A synchronizer ring of Kawamura having a porosity between 5 to 20% would meet the claim limitations.

Response to Arguments

2. Applicant's arguments filed 7-8-04 have been fully considered but they are not persuasive.

Applicant again argues that Kawamura does not meet the claim limitations since Kawamura teaches that the particles are between 5 to 30% and that an amount of particles over 30% may cause the abrasion of the object to be overexceeded. As was stated above, the limitation of 'permitted to be' is unclear if it is a requirement of the claim or if it is merely a preferred embodiment. For purposes of this office action, the language has been treated as being a requirement of the claim.

Also, as was set forth above, the limitation of over 30 wt% and the prior art teaching of up to 30 wt% would not provide a patentable distinction since the compositions are in such close proportions that that prima facie one skilled in the art would have expected them to have the same properties.

Furthermore, as was stated in previous actions, the reference must be evaluated for what it fairly teaches one of ordinary skill in the art. Even though the art further teaching of having lubricants in an amount greater than 30 wt% is phrased in terms being unsatisfactory for the intended purpose, it is still considered a teaching of solid lubricant loadings of over 30 wt%.

Any inquiry to this communication or earlier communications from the Examiner should be directed to Jason Savage, whose telephone number is (571)272-1542. The Examiner can normally be reached Monday to Friday from 6:30 AM to 4:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Deborah Jones, can be reached on (571)272-1535.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason Savage

DEBORAH JONES
SUPERVISORY PATENT EXAMINER

7-20-04